Differential cross section estimation by a matrix element based method.

In high energy collider physics, some topology cannot be fully reconstructed using the detector information only. Some techniques like kinematical fitting (KF) or matrix weighted template (MWT) have been developed to handle this difficulty. This is for instance the case for topologies arising from top quark pair production, when two leptons are present in the final state together with two neutrinos that cannot be detected. The purpose of this work is the development of a new analysis technique that allows the determination of differential cross sections with respect to arbitrary kinematic variables, such as the ttbar invariant mass or the angle between the top quarks in the ttbar rest frame. This technique, based on the matrix element method, makes the best use of the experimental information given a set of theoretical hypotheses.

Author: Mr PIN, arnaud (Institut de Physique Nucleaire-Departement de Physique-Universi)

Presenter: Mr PIN, arnaud (Institut de Physique Nucleaire-Departement de Physique-Universi)